ABSTRACT OF THE DISCLOSURE

An instrumentation receiver architecture for processing an RF signal has a dual-IF channel architecture, a low-band IF channel and a high-band IF channel, and a tunable oscillator, such as a yttrium-iron-garnet (YIG) tunable oscillator (YTO), a voltage controlled oscillator (VCO), a bank of VCOs and the like, providing a different mixing frequency range to each channel, generally a higher frequency range to the high-band IF channel than to the low-band IF channel. At the input to the high-band IF channel is a bank of preselection filters for selecting a frequency band from the RF signal for processing by the high-band IF channel. A switch selects the output from one of the low-band and high-band IF channels for further processing.